



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/560,149

06/15/2006

Chang Yoon Jung

05-435-B

1223

20/306

7590

05/30/2008

MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP

300 S. WACKER DRIVE

32ND FLOOR

CHICAGO, IL 60606

EXAMINER

OBAYANJU, OMONIYI

ART UNIT

PAPER NUMBER

4163

MAIL DATE

DELIVERY MODE

05/30/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/560,149

**Applicant(s)**

JUNG, CHANG YOON

**Examiner**

OMONIYI A. OBAYANJU

**Art Unit**

4163

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 September 2006.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-3 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 09 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over (Lee) International Publication Number WO 0227973 in view of (Cho) Pub No KR 2002018731 and (Yang) USPN 6,526,446.
3. As per claims 1 and 2 Lee discloses: A method of designing a micro base station base transceiver subsystem of a CDMA system (Lee fig. 1: a CDMA BTS) including at least one channel card, at least one (IF) board (fig. 1. labeled 40 and 30 respectively) a BTS control board, a digital combiner in a forward path of the BTS, a switching logic in a reverse path of the BTS (fig. 2: label 2, 160, 170) respectively.
4. Lee does not teach that the digital combiner and the switching logic are embedded in the BTS main board. Lee teaches incorporating the combiner, high speed switch unit, and the channel card unit in BTS control board (pg 6. line 20 - 25) and Cho teaches improving performance of a BTS by implementing a digital interface between a channel card and a (IF) card (abstract). Also, Yang teaches embedding various components on a main board to improve data throughput performance (col. 5 lines 60-65). Thus, it would have been obvious to one of ordinary skill in the art at time the

invention was made to modify the prior art teaching of Lee with the teachings of Cho and Yang because this will result in increase rate of data transfer between components.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over (Lee) International Publication Number WO 0227973 in view of (Cho) Pub No KR 2002018731 and (Yang) USPN 6,526,446 as applied to claim 1 above, and further in view of (Park) USPN 6052378.

6. As per claim 3, Lee in view of Cho and Yang further discloses: data inputted from the forward path are combined to transmit serial data to individual channels of the at least one IF board, and wherein data inputted from the at least one IF board are transmitted via the switching logic in the reverse path (Lee pg 5. lines 1 - 20).

7. Lee in view of Cho and Yang does not teach transmitting serial data to individual channels of the at least one IF board. Park teaches serially transmitting the summed digital signals through low pass filters and finally transmitting them to the summing amplifier of base/intermediate frequency band upward conversion circuit (fig.3 and col 3. lines 45-55). Thus, it would have been obvious to one of ordinary skill in the art at time the invention was made to include the data transmission to an intermediate frequency board of Park in the system of Lee in view of Cho and Yang to achieve the same goal of efficiently transmitting data.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to OMONIYI A. OBAYANJU whose telephone number is (571)270-5885. The examiner can normally be reached on Mon - Fri, 7:30 - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Robinson can be reached on 571-272-2319. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/O. A. O./

/Mark A. Robinson/  
Supervisory Patent Examiner, Art Unit 4163